

### **Remarks/Arguments**

#### Status of Claims

Claims 1-16 are pending. Claims 5 and 10-16 have been withdrawn from consideration as being directed to non-elected inventions. Claims 1-4 and 6-9 drawn to an isolated polynucleotide encoding a MraY polypeptide comprising the amino acid sequence set forth in SEQ ID NO:2, an expression vector comprising a polynucleotide encoding the disclosed MraY protein and transformed host cells have been elected for examination.

#### Amendment(s) to the Specification

##### Specification Amendment(s)

The Office Action indicates that the specification is objected to because:

- (i) it lacks a first paragraph that provides the relevant priority information;
- (ii) the use of trademarks/tradenames.

In response to these objections, Applicants have amended the first page of the specification to include a statement indicating that this application is a national stage §371 application of PCT/US00/27056 and claims priority to provisional application, 60/157,580, in accordance with the Examiner's suggestion.

Applicants acknowledge the Examiner's observations regarding the use of trademarks/tradenames in the text of the specification. Applicants respectfully request permission to defer a response to this objection until a later stage of examination. In the interim Applicants, will undertake a review of the text of the specification to identify instances where trademarks or tradenames are currently recited in order to make any necessary changes.

#### Claim Amendment(s)

Please cancel claims 2 and 6-9. In order to advance prosecution on the merits, claims 1 and 3 are currently amended. No new matter has been added.

Claim 1 has been amended to recite "an isolated polynucleotide selected from the group consisting of: a polynucleotide encoding a polypeptide having an amino acid sequence of SEQ ID NO: 2; and a polynucleotide consisting of the nucleic acid sequence set forth in SEQ ID NO: 1." Support for this amendment can be found on page 2, lines 18-20 wherein Applicants state that in particular embodiments the invention provides an isolated polynucleotide which encodes a polypeptide comprising the amino acid sequence set forth in SEQ ID NO: 2 or a polynucleotide having the nucleic acid sequence set forth in SEQ ID NO: 1.

Claim 3 has been amended to recite “an expression vector comprising the polynucleotide according to claim 1.” Support for this amendment can be found on page 3 lines 1-14 wherein Applicants teach that an aspect of the invention is an expression vector including a polynucleotide encoding a *Pseudomonas aeruginosa* MraY protein and regulatory regions.

Claims 2 and 6-9 have been canceled. The subject matter of claim 2 has been rewritten in independent format as an element of claim 1. The subject matter of claims 6-9 is encompassed within the scope of claim 1 because the specification teaches that the polynucleotide sequences disclosed and claimed in the instant application can be DNA, RNA or a mixture of both and can be single or double stranded (page 2, lines 18-20), and the statement on page 6, lines 1 and 2 that a further aspect of the invention is a cDNA encoding a MraY protein.

#### **The Rejection of Claim 6-9 Under 35 U.S.C. §101 Should be Withdrawn**

Claims 6-9 and those that depend therefrom are rejected under 35 U.S.C. §101 as being directed to non-statutory subject matter. More specifically, the Office Action indicates that “[c]laim 6 does not sufficiently distinguish the claimed cDNA or polynucleotide over a naturally occurring cDNA or polynucleotide as it exists naturally, because the claim does not particularly point out any non-naturally occurring differences between the claimed product and the naturally occurring products” (Office Action, page 3). The Examiner further indicates that in the absence of the hand of man, naturally occurring products are considered to nonstatutory subject matter.

As indicated in the amended claim listing, claims 6-9 have been cancelled. Accordingly, the rejection has been obviated. Accordingly, Applicants respectfully request reconsideration and withdrawal of this rejection.

#### **The Rejection of Claims 1-4 and 6-9 Under 35 U.S.C. §112 Should be Withdrawn**

Claims 1-4 and 6-9 were rejected under 35 U.S.C. §112 as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicants regard as the invention. More specifically, the Examiner indicates that:

1. Claims 1(c ) and 6(c ) lack proper antecedent basis in the recitation of “a polynucleotide of (a) or (b);”
2. Claims 1 (b) and 6(b) are vague and indefinite in the recitation of the phrase “complementary to the polynucleotide (a),” because it is allegedly unclear whether the complementary polypeptide is partially or fully complementary to the polynucleotide of (a);

3. Claims 1 (c ) and 6(c ) are alleged to be vague and indefinite in the recitation of the phrase “under stringent conditions;”
4. Claim 3 is noted to lack proper antecedent basis for recitation of the phrase “a polynucleotide of claim 1;”
5. Claim 7 is noted to lack antecedence for recitation of the phrase “cDNA in accordance with claim 6:” and
6. Claims 2-14 and 7-10, which depend either directly or indirectly from claim 1 or claim 6 are also rejected as being indefinite, because of the alleged indefiniteness identified in the base claims.

As noted above, claims 6-9 have been cancelled. Accordingly, to the extent that the rejection is based on the language of claims 6-9, the outstanding indefiniteness rejection has been partially obviated.

The outstanding rejections based on antecedence issues with claim 1 as was originally filed have been obviated by amended the language of claim 1. More specifically, as amended claim 1 no longer recites the (b) and (c) elements identified above as the basis of indefiniteness rejections.

Therefore, the alleged indefiniteness of claim 1 has been overcome by claim amendment.

As amended claim 3 now refers to “the polynucleotide of claim 1,” thereby obviating the Examiner’s rejection based on lack of antecedent basis.

Claim 7 has been canceled, thereby obviating the rejection listed as number 5 in the above summary list.

In light of the above-discussed claim amendments, including the cancellation of claims 6-9, Applicants are of the opinion that the dependent claims under examination particularly point out and distinctly claim the subject matter which the applicants regard as their invention. Accordingly, reconsideration and withdrawal of the outstanding indefiniteness rejections are respectfully requested.

**The Rejection of Claims 1, 3, 4 and 6-9 Under 35 U.S.C. §102(e)(2) Should be Withdrawn**

Claims 1, 3, 4 and 6-9 were rejected under 35 U.S.C. §102(e)(2) as being anticipated by U.S. Patent No. 6,551,795(Rubenfield) (referred to herein as the ‘795 patent). The Examiner indicates that the ‘795 patent “discloses an isolated cDNA or polynucleotide

encoding a polypeptide having 98.7% structural identity with the instantly claimed polynucleotide of SEQ ID NO: 1, an expression vector and a host cell comprising the same” (Office Action, pages 4-5). The Examiner states that a “prior art polynucleotide with a sequence identity as high as 98.7% is complementary to the instantly claimed polynucleotide of SEQ ID NO:1 and is expected to hybridize with the instantly claimed polynucleotide sequence of SEQ ID NO:1 under stringent conditions” (Office Action, page 5).

As amended claim 1 no longer encompasses polynucleotide sequences that are complementary to, or which hybridize with, the polynucleotide sequences that are disclosed and claimed in the instant application. Therefore, to the extent that the anticipation rejection is premised on the scope of the subject matter encompassed by the recitation of complementary and hybridization language, it has been partially obviated by amendment.

Anticipation requires that each and every element of the claimed invention be disclosed in a single prior art reference. For anticipation, there must be no difference between the claimed invention and the reference disclosure. More specifically, anticipation requires identity. The identical invention must be shown in as complete detail as is contained in the claim under examination.

As amended the claims under examination expressly refer the nucleic acid sequence set forth in SEQ ID NO: 1 and to the amino acid sequence set forth in SEQ ID NO: 2. As noted by the Examiner, the prior art sequences and the claimed sequences are not identical. More specifically, there are two base pair differences between the polynucleotide sequence set forth in the ‘795 patent and the *MraY* gene sequence set forth in the instant application. In the *MraY* gene disclosed and claimed in the instant application, nucleotide 152 is a G, resulting in an Arg to Pro substitution relative to the ‘795 polypeptide sequence, and nucleotide 1005 is also a G, which results in a Glu to Asp substitution in the claimed *MraY* gene. The fact that there is a lack of identity between the prior art sequences and the instant sequences, means that the ‘795 sequence does not deprive Applicant’s invention of its novelty.

Accordingly, reconsideration and withdrawal of the novelty rejection based on U.S. Patent No. 6,551,795 are respectfully requested.


**The Objection to Claim 2 Should be Withdrawn**

Claim 2 is objected to for being dependent from the rejected claim 1. As amended, the subject matter of claim 2 has been rewritten in independent format as an element of claim 1.

Accordingly, reconsideration and withdrawal of this objection are respectfully requested.

In summary, Applicants maintain that the instant claims are in condition for allowance and a favorable action on the merits is earnestly solicited.

Respectfully submitted,

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